



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,561	11/09/2001	Masayoshi Esashi	215996US2X	5887

22850 7590 05/27/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NGUYEN, JIMMY

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,561

Applicant(s)

ESASHI ET AL.

Examiner

Jimmy Nguyen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 –19 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al (US 6072190).

As to claims 1, 16 – 19, Watanabe et al disclose (fig 1) a contactor which is used for testing electric characteristic of a object to be tested, contactor comprising;

A contactor board (10);

A plurality of conductive members (via holes 91, 92) formed through the contactor board (10);

A plurality of beam members (figs 6, column 5 line 40 – 67 and column 6 line 1 –10) each having a tip (5) and a base end (8) at its both ends in which at least a conductive layer (gold coated) is provided between both the ends and each beam member has a step between the tip (5) and the base end (8), which is connected to each conductive member (via holes 91, 92); and

A contact terminal member (5) provided at the tip of each beam member (figs 6, column 5 line 40 – 67 and column 6 line 1 –10) is which the contact

terminal member (5) is formed integrally with the conductive layer of the beam member (4).

As to claim 2, Watanabe et al disclose (fig 1) the contactor wherein the contact terminal member (5) is mainly formed of essentially the same material as the conductive layer of the beam (4).

As to claim 3, Watanabe et al disclose (fig 1) the conductive layer comprises one selected from the group consisting of gold (figs 6, column 5 line 40 – 67 and column 6 line 1 –10).

As to claims 4, 5, Watanabe et al disclose (fig 1) the contact terminal (5) member comprises a high hardness conductive member such as gold and titanium (figs 6, column 5 line 40 – 67 and column 6 line 1 –10).

As to claims 6 - 9, Watanabe et al disclose (figs 6) a method for manufacturing the contactor described in claim 1 to form a beam member and a contact terminal member comprising the steps of

Forming a recess in silicon substrate, said recess having such a cross section that deepens according to a pattern corresponding to a step shape of the beam member and being deepest at its bottom; (as seen in fig-6)

Forming silicon layer on recess;

Forming a hole having a shape corresponding to the contact terminal member at the deepest position in recess; and

Forming a deposition on the silicon layer and the hole to constitute the conductive layer of the beam member and the contact terminal member

(All the step is disclosed in column 5 line 40 -67 and column 6 line 1- 10)

As to claims 10, 11, Watanabe et al disclose (fig 1) a probe card comprising

A contactor describe in claim 1

A card board (15) having a plurality of second conductive members (via holes 91,92) arranged corresponding to the plurality of conductive members of the contactor; and

An electric connection member (connected all the way from the first board to second board) interposed between the contactor (5) and the card board (15), electric connection member serving to electrically interconnect each conductive member of the contactor and each second conductive member of the card board and the electric connection member has a cushioning structure.

As to claims 12, 13, Watanabe et al disclose (fig 1) the electric connection member is formed by deposition process and the ohm shaped structure is inherently within the scope of the invention.


As to claim 14, Watanabe et al disclose (fig 1) the contactor board (10) is an insulating board (ceramic, column 6 line 40 – 43).

As to claim 15, Watanabe et al disclose (fig 2) the elastic film (11 and 30) is interposed between the contactor board (10) and card board (15).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen at (703) 306-5858. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

JN.
May 15, 2003


KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800